

FIG. 1 (Prior Art)

<ml>
<br/>
<button id="btn1" text="This is a line of Text" />
</xml>
<br/>
142

id: String ="btn1"
text: String="This is a line of Text"

<ml>
<br/>
<button id="btn1" bgcolor="gray" />
</xml>
<br/>
146

id: String ="btn1"
bgcolor: Color =Color.gray

id: String ="btn1"
text: String="This is a line of Text"

This is a line of Text

154

button: Object 156

id: String ="btn1"
bgcolor: Color =Color.gray

FIG. 1A (Prior Art)

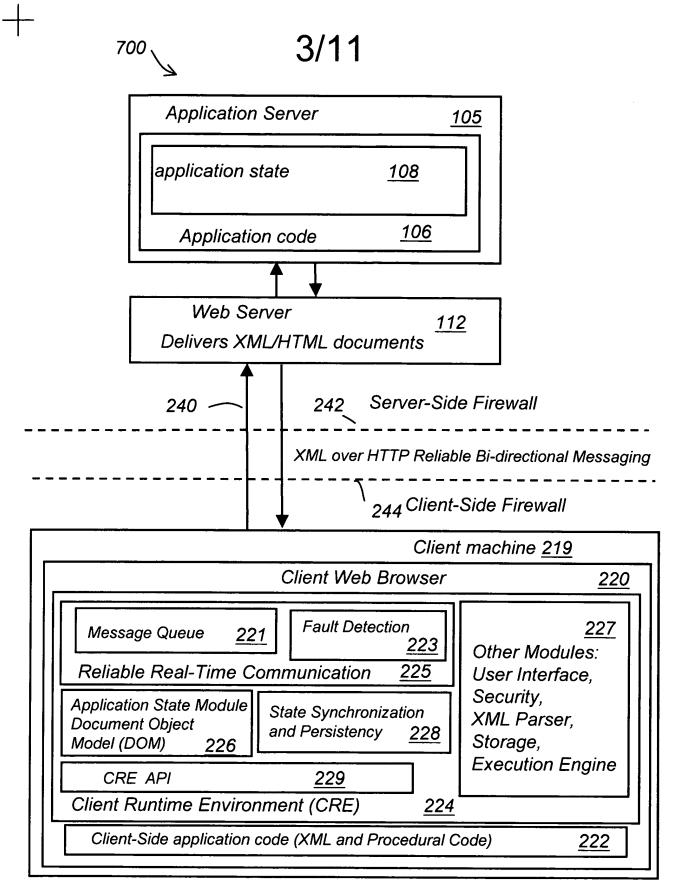
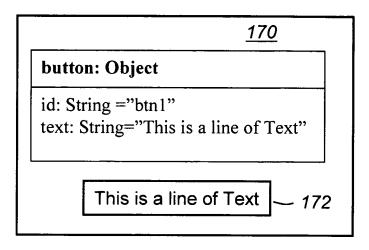
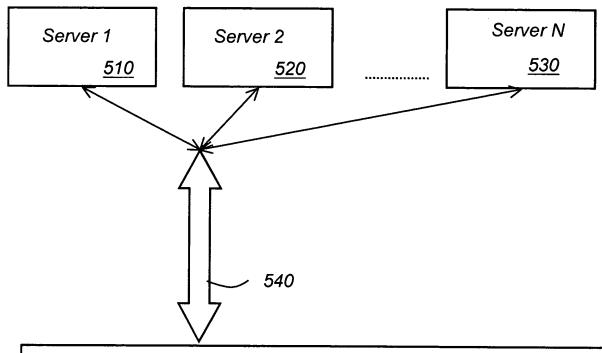


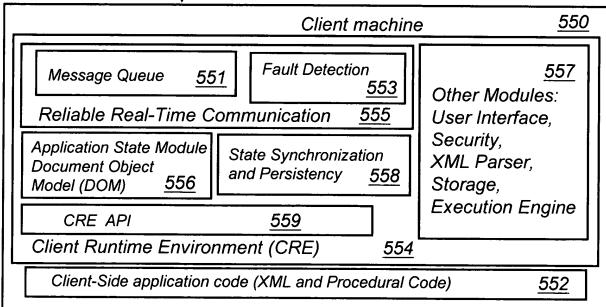
FIG. 2



## button: Object id: String ="btn1" text: String="This is a line of Text" bgcolor: Color=Color.gray This is a line of Text 176







Application Second

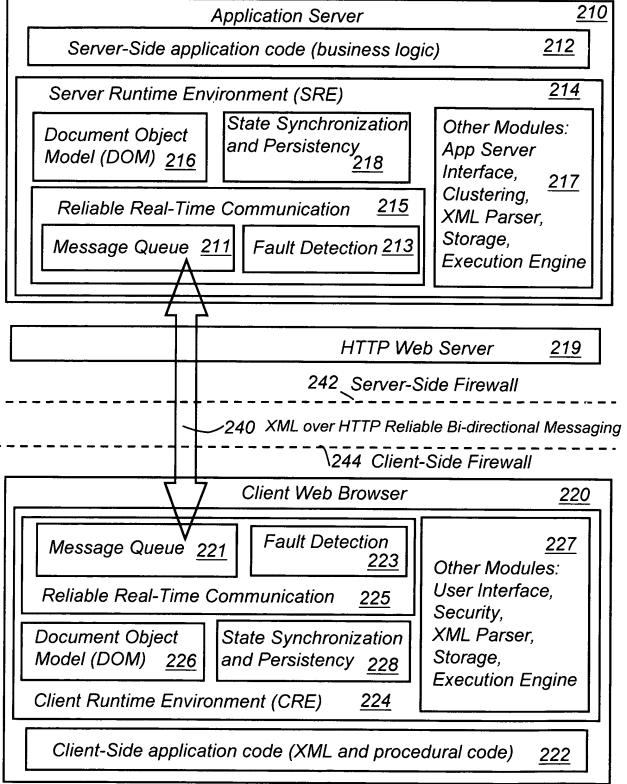


FIG. 4

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User wants to run an application through a client Machine; CRE sends a request to the application server to retrieve a first XML screen of the application

310

 $\downarrow$ 

Application server sends back to the CRE the first XML screen of the application

320

CRE receives the first XML screen, parses it, 330 constructs a first object oriented representation of the information contained in the first screen, stores it in a client side DOM, and displays the first XML screen to the user

Application runs in the client machine

340

Upon a user event CRE sends a second request to the application server to retrieve a second XML screen of the application 360

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CRE receives the second XML screen, parses it, constructs a second object oriented representation of the information contained in the second screen and stores it in the client side DOM

370



CRE merges the first object oriented representation with the second object oriented representation and displays the combined result to the user

380

FIG. 5A

User wants to run an application through a client machine. CRE sends a request to the application server to retrieve a first XML screen of the application 310

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Application server sends back to the CRE the first XML screen of the application

320

CRE receives the first XML screen, parses it, constructs a first object oriented representation of the information contained in the first screen, stores it in a client side DOM, and displays the first XML screen to the user

Application runs in the client machine

340

Upon a user event CRE sends a second request to the application server to retrieve a second XML screen of the application 360

CRE receives the second XML screen, parses it, and constructs a second object oriented representation of the information contained in the second screen and stores it in the client side DOM 370

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CRE merges the first object oriented representation with the second object oriented representation and displays the combined result to the user

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Application state is also maintained in a server-side DOM; SRE updates server-side DOM though server-side business logic. 390

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Synchronization between client-side DOM and server-side DOM through bidirectional communication 395

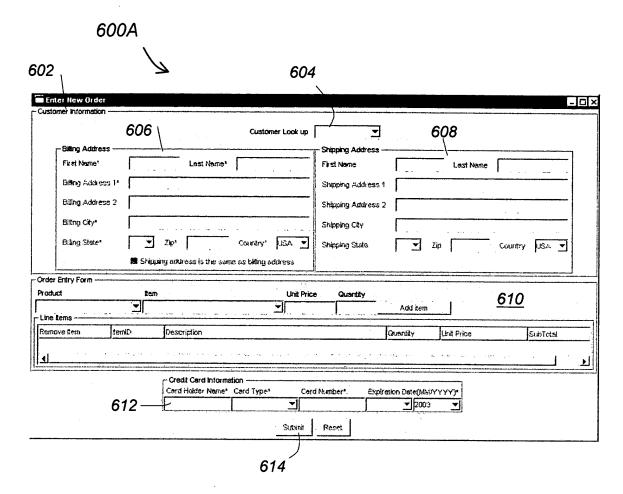


FIG. 6A

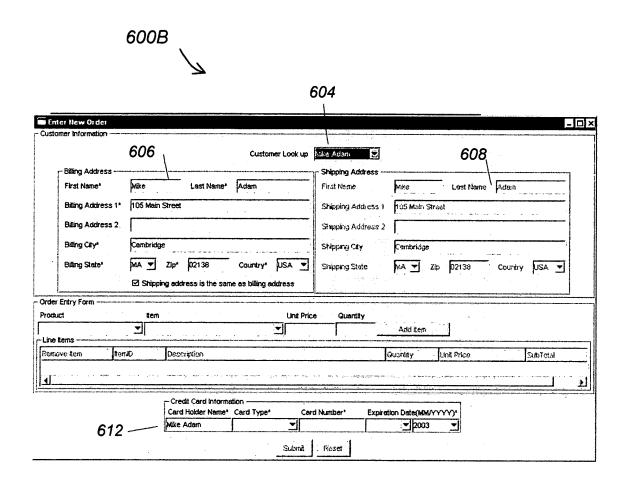


FIG. 6B

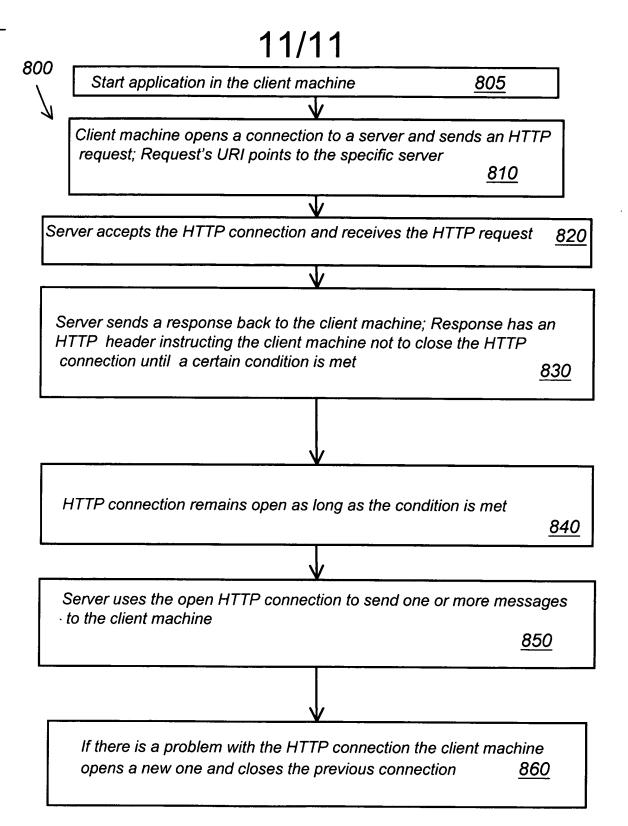


FIG. 7